

Lesson 4

ALL TIED UP IN KNOTS

GOALS:

- > Students will increase their understanding of the work and arts of an 1830's sailor.
- > Students will be introduced to marlinspike seamanship.

BACKGROUND:

Marlinspike seamanship is the care, handling, knotting, splicing and use of fiber and wire rope. Marlinspike seamanship also includes sail making and repair, canvas lace, macramé, and is a large part of the rigging process. A marlinspike is a pointed metal tool used in marling, separating rope strands for splicing, tightening knots and hitches, it can also be used as a hammer or lever. The marlinspike has dozens of uses and is a sailor's #1 tool.

In the days when sailing vessels ruled the seas, every sailor had to be an expert in this field. They developed marlinspike seamanship into a leisure time art as well as produced hundreds of knots, hitches, bends, and splices.

Knot tying is the most basic form of marlinspike seamanship yet every sailor depends on the use of a variety of knots in his work aboard a sailing vessel. Knot tying can be both practical and artistic.

BEHAVIORAL OBJECTIVE:

The students will be able to:

- a. Define marlinspike seamanship.
- b. Determine the difference between a knot, hitch, and a bend.
- c. Tie at least five different knots.
- d. Identify various knots and their uses.

STRATEGY:

KNOTS AND THEIR USES:

1. Bend: A knot used in joining two ropes often of different diameters, or the securing of a rope to an eye, ring, becket, spar, etc. which may be easily cast if required. Examples: sheet or becket bend, anchor bend.
2. Hitch: A knot whose constituent loops jam together in use, particularly under strain, yet remain easily separable when the strain is removed. Examples: clove hitch, half hitch.
3. Knot: Some combination of loops, mostly interlocking, used to fasten ropes together or to objects, or to enlarge the end of a rope as in a stopper knot like the figure eight knot. One simply cannot intertwine or tangle a piece of rope and call it a knot. A knot must be able to be "broken," meaning that it has a way in which it can be easily undone when required –each knot has its' own trick that must be learned.

Activity One: Knot Tying

Materials: Knot tying lines of at least 18” long, one per student

Methodology

- Define and discuss the meaning of marlinspike seamanship.
- Define and discuss the difference between a bend, hitch, and a knot.
- Define and discuss the various knots and their uses.
- Practice and master the following knots: figure eight knot, clove hitch, reef knot, sheet bend, and the bowline knot.

Challenge: You are trying to get a job as a sailor on the brig Pilgrim for the long voyage around Cape Horn to Alta-California, Mexico. You have no experience sailing a square rigger but are trying to sell yourself as a marlinspike sailor. First you tie at least five knots in front of the first mate and explain their uses. The First Mate is still not convinced of your skill and tells you the following: “Many time a sailor is required to work aloft in the rigging at night when there is no moon, it is very dark and difficult to see. A sailor’s life can often depend on the quality of knot he ties no matter what the condition. If you can tie these knots with your eyes closed and then behind your back, the job is yours.”

Guided Practice:

- “Why is it so important to tie the right knot for the right job?”
- “Does tying a knot increase or reduce the strength of a line? Why?”
- “What knot would you use to tie the anchor to a line?”
- “What knot would you tie to make a rope swing hanging from a tree?”
- “What knot is modified by adding two slip-knots to tie a bow for your shoes?”

Activity Two: Knot Games

BOWLINE –SHEET BEND DRAW

Materials: One fathom of line per student

Each crew forms into pairs in facing lines. On “Go” each member ties a bowline around his/her own waist. The first pair to finish should then ties the ends of their partner’s rope to his/her own with a sheet bend. When finished, both lean back against the ropes with their hands in the air. The winner is the first crew in which all are leaning back and all the knots are holding.

KNOT STEP CONTEST

Materials: One piece of line 18” long per student.

Line the students at one end of the room. Call out the name of a knot. Each student attempts to tie the knot correctly. A judge quickly examines the knots and determines who tied the knots correctly. All students who tied the knots accurately should take a step forward. The leader should then call out another knot and follow the same procedure. The first student to reach the opposite side of the room is the winner.

KNOT – TYING RELAY

Materials: a stick (e.g. broom handle), 5 ropes 18” long

Crews line up in relay formation (crew mate in front with the rest of the crew lined up in a single file line behind mate), about 2 paces from a stick which is held horizontally approximately 1 meter off the ground. Five ropes are laid out below the stick. On the signal, the first person in line runs up, ties the proper knot around the stick, runs back, and tags off to the second person, who then ties the second knot. The knots should be tied in the following order: (1) reef knot, (2) sheet bend, (3) clove hitch, (4) round-turn two half hitches, (5) bowline. The first crew to tie all 5 knots correctly in the shortest amount of time wins. One minute should be added to a crew’s time for every incorrect knot.

CHAIN GANG RACE

Materials: ½ fathom line per student

Crews line up in relay formation (crew mate in front with the rest of the crew lined up in a single file line behind mate). On the signal, the first crew member ties a bowline around one ankle and hands the other end of the line to the second member. The second member attaches his/her rope to the first member’s line with a reef knot, then makes a clove hitch on his/her own ankle. The second member then hands the free end of their line to the third member, who repeats the same process as the second member. When all crew members are attached to each other in a chain-gang style, that crew runs to the finish line.

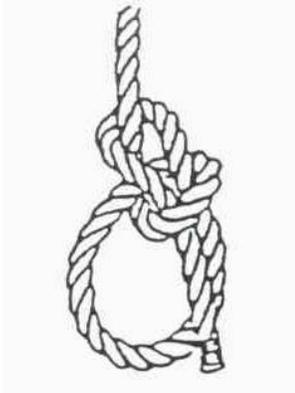
Worksheet 4a

KNOT IDENTIFICATION

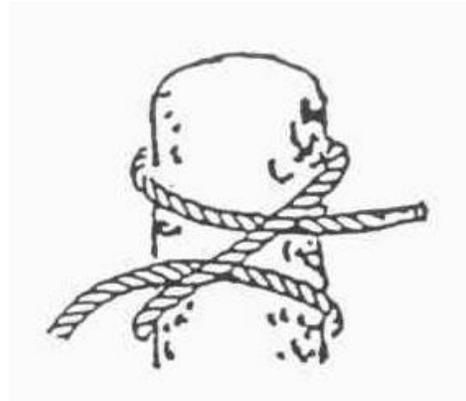
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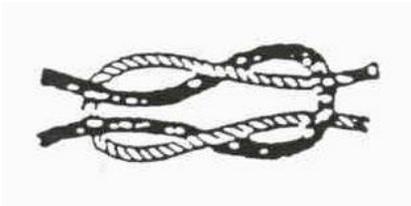
Directions: Examine these knots and write the name of each knot on the line below.



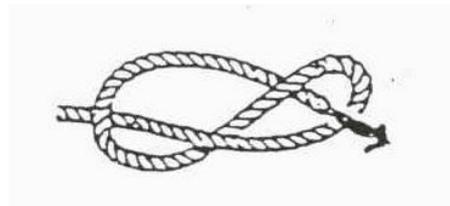
1. _____



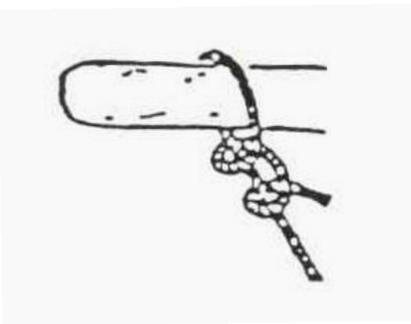
2. _____



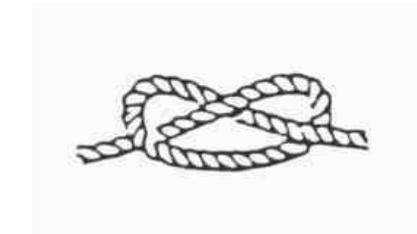
3. _____



4. _____



5. _____



6. _____